WATER CONSERVATION NEWS

Department of Water Resources Division of Planning & Local Assistance Water Conservation Office

In this issue...

Model Landscape Ordinance Works

Thousands of bills become law every year, always with the best of intentions. But the rubber doesn't really hit the road until local agencies implement these laws and get some feedback from those affected.

Consider, for example, the 1990 Water Conservation in Landscaping Act. It set a January 1, 1993 deadline for all California counties and incorporated cities to establish a Water Efficient Landscape Ordinance or to adopt the Model Ordinance that the California Department of Water Resources developed with an advisory committee's help; 454 jurisdictions are affected by the Act. Reducing water use without damaging landscaping sounds good—but ANOTHER ordinance?

Did local agencies do it? Apparently. A 1996 DWR survey found that 57 percent of the jurisdictions use the Model Ordinance or a similar plan and 43 percent use turf limits or other approaches.

Did it work? Seventy-six percent of responding local agencies reported improved landscape water efficiency.

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CIMIS

The CIMIS watering index can be used to assist in adjusting lawn or turf watering. Refer to "CIMIS Network News" on page 16 for more information.

Major Savings in Washer Initiative

About 18 percent of the nation's utilities are participating in the Consortium for Energy Efficiency's Clothes Washer Initiative meant to promote water and energy savings through the purchase of highly efficient washing machines. Utilities offer incentives, marketing campaigns, customer education, and demonstrations.

Many of the Northeast region's electric, gas, and water utilities have joined in a coordinated marketing plan for 1998, establishing a $3 million annual budget to promote use of high-efficiency clothes washers. Commonwealth Electric offers a $150 rebate per machine purchased, along with demonstrations, workshops, brochures, and newsletters.

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Water Conservation News provides information on the latest developments in agricultural and urban water conservation programs. This is a free newsletter published quarterly by the California Department of Water Resources, Division of Planning and Local Assistance, Water Conservation Office.

For more information about DWR's water conservation programs, call Ed Craddock, Chief, Water Conservation Office, at (916) 327-1655; Greg Smith, Urban Water Conservation, at (916) 327-1619; or Baryohay Davidoff, Agricultural Water Conservation, at (916) 327-1788. Information is also available from any of the following DWR District staff:

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We welcome any comments, suggestions, and story ideas; please send them to:

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DWR does not endorse any of the businesses or consulting firms mentioned in this newsletter, since there may be others that offer the same or similar services.

Major Savings in Washer Initiative

(continued from page 1)

WashWise, a major Northwest collaborative program among electric, gas, and water utilities anchored by the Northwest Energy Efficiency Alliance, includes an instant $130 in-store discount at any of 425 retailers, an additional rebate of up to $70 by some water utilities, a retailer incentive of $20 per eligible washer, and an aggressive regional marketing and promotional campaign. Interstate Power (Iowa) offers a $250 rebate with purchase of a horizontal-axis washer through 1998. Boulder, Colorado Department of Public Works gives a $100 rebate on machines that meet CEE specifications. Wisconsin Public Service offers zero interest financing for residential and commercial customers purchasing high-efficiency washers.

Austin, Texas, is the first partner in Pacific Northwest National Laboratories' volume purchase agreement for high-efficiency Gibson tumble action washers at $517 each. The City will offer customers a $150 rebate. San Antonio has made a verbal agreement to participate in this program in 1998. (See Case Study to the right.)

Case Study: Pacific Gas & Electric

PG&E's 1997 high-efficiency washer program paid 3,400 rebates, far exceeding its goal of 2,800. Nearly 95 percent of participants rated the program excellent or very good.

In 1998, PG&E hopes to work with the Department of Energy's Energy Star Appliance Initiative, combining the existing refrigerator and washer programs into a "Super Clean—Super Cool" program.

Although PG&E anticipates reducing the per-appliance rebate, the number of rebates will increase to 4,500.

INTERNET ADDRESS

Water Conservation News is now available for viewing on the Internet at:
http://wwwdla.water.ca.gov/publications/pubs/wc_news/98_1.pdf

Mission Statement of the
Water Conservation Office

"To advance the efficient management and use of California's water resources in cooperation with other government agencies and the private sector through technical and financial assistance"

Editorial

By *Ed Craddock*

How Water Efficient is Your Household?

About six years ago, my wife and I started tracking our household water use with an Excel spreadsheet, which was called EDWATER. We had just moved into our new home in Yuba City, California. The City relies on the State Water Project for its supplies and is metered. Our water bills had both the current and the previous year's water use so they lent themselves to evaluating our water use. We began analyzing our water use by using EDWATER to separate the data into interior and exterior water use.

Our interior water use was determined by finding the winter month of minimum water use after three years of data had been collected. We also wanted a month with no exterior water use (car washing, etc.) and no traveling away from home. This analysis established that we were using approximately 60 gallons per capita daily, which is less than the average indoor residential use in all hydrologic regions in California except the San Francisco Bay region. It is less than the average for inside uses of 64.7 gpcd measured in 600 homes in six North American cities (see Waterwiser home page at http://www.waterwiser.org/). In the Yuba City area, the average interior residential water use is approximately 75 gpcd.

However, it's hard to generalize about per capita water use. In our situation, the children are grown, and we both work and are not at home during weekdays——so let's define our interior water use as the "empty nester" category. On the other hand, we have children and grandchildren who are probably around *too* much on weekends and tend to remove us from the "empty nester" category on those days. Our interior water use reflects the use of low-flow fixtures and a standard washing machine. We plan to retrofit to ULFTs and an efficient, tumble-action washer in our household this year and consequently reduce our interior water use to less than 50 gpcd without really changing our lifestyle. I'll let you know where our interior water use ends up in a future issue of *Water Conservation News.*

We've been working diligently on reducing our exterior water use too, but it will be more difficult to deal with and demands a lot more attention—that's another story for the next edition of *Water Conservation News.*

If you have a story about managing residential water use, please contact me at the Division of Planning and Local Assistance, 1020—Ninth Street, Sacramento, California 95814; e-mail craddock@water.ca.gov. We'd like to highlight these experiences as newsbriefs in future issues of *Water Conservation News.*

Plans Under Way for Water Awareness Month

May marks the eleventh year that the California Water Awareness Campaign will sponsor activities and events for Water Awareness Month. The campaign's mission is to enhance public awareness of the value of water to all Californians through local campaigns by water agencies and organizations, and statewide public information efforts.

More than 300 local water agencies, counties, cities, farm bureaus, and businesses contribute to the Water Awareness Campaign and participate in projects each year. Throughout May, many of these agencies sponsor events such as "fun runs," water fairs and expos, water facility tours, school poster contests, and fishing derbies to promote water conservation.

One of the most successful programs of the past three years has been the joint promotion between the campaign and the California League's minor league baseball teams. Each of the ten teams chooses a home game date in May to promote Water Awareness Month by distributing water bottles to the first 1,000 fans entering the stadium and broadcasting public service announcements throughout the game. Local water agencies participate by sponsoring exhibit booths and contests with game fans.

For information on how to get involved, or to request campaign materials, call campaign headquarters at (916) 441-4718; e-mail cwac@acwanet.com.

Model Landscape Ordinance Works

(continued from page 1)

A major provision of the model ordinance was to establish a water allowance at 80 percent of the site's evapotranspiration rate (the water needed for healthy plant growth after allowing for water evaporating from the soil and transpiring from plants). This challenged landscapers to reduce water use by balancing high, medium, and low water-using plants; designing appropriate irrigation systems; and managing the landscape to stay within their water allowance.

The respondents most often indicated a need for training or technical assistance that included irrigation equipment, appropriate plants, hydrozones, fire prevention, water budgets, evapotranspiration, irrigation scheduling, soil analysis, and use of reclaimed water or graywater.

The chart below lists the most commonly used elements in the landscape ordinance provisions reported in response to the DWR survey.

Plant Provisions	Agencies
Use of appropriate plants	396
Hydrozone grouping	350
Use of native species	240
Tree planting encouraged	238
Fire prevention	234
Irrigation Provisions	
Automatic controllers	368
Dedicated landscape meters	354
No runoff or overspray	325
Rain sensing devices	300
Soil moisture sensors	279
Separate hydrozone valves	270
Supply/Management	
Irrigation schedules	310
Recycled water	286
Irrigation audits	227
Use of CIMIS	217
Miscellaneous Features	
Mulch	352
Soil analysis	288
Maintenance schedule	278

Soft Paths, Hard Facts

Needed: A Vision for Radically Increased Water Efficiency

(The following is adapted from an article in the Rocky Mountain Institute Newsletter, Summer 1997. The opinions expressed are those of RMI and are reprinted here as a notice of a potentially important water conservation study and as a forum for discussion of significant ideas. Newsletter Editor Dave Reed may be contacted by writing to the Institute, 1739 Snowmass Creek Road, Snowmass, Colorado 81654-9199; e-mail: dreed@rmi.org.)

Water utilities have come a long way in a short time by embracing water efficiency as a way to reduce demand. But is this far enough? Not if the goal is to only slow down population increases. As they grow, many communities are drawing unsustainable amounts of water from supplies lacking long-term reliability. Slowing the rate of population increase is a good start, but overall water use may also need to be reduced.

That's the backdrop for Rocky Mountain Institute's new, multi-year, Soft Water Path program. "Soft Path" refers to a strategy favoring efficient end-use and right-sized renewable sources. Soft Path researchers Richard Pinkham and Scott Chaplin plan to use RMI's work on the value of small-scale electricity supplies as a starting point for developing a strategy for water efficiency. They'll be asking the simple question "what's the right size?" for water and wastewater systems. As the researchers see it, current efforts fall short for the following three reasons:

1. Water decision-makers don't have a clear sense of the technical potential of water efficiency, i.e., how much less water would be needed if proven cost-effective technologies and practices were fully implemented.
2. Some economic benefits of being efficient with water are not being considered.
3. There is a lack of policies that encourage investments in water efficiency.

Water Conservation news

Anaheim Agreement Means Rebates for Business

The City of Anaheim, California, is trying to reduce water use by ten percent. A major component in the City's overall plan is a program that gives businesses a $60 rebate for replacing water-wasting toilets with efficient fixtures. Thus far, 20 firms have received the rebate and another 58 have applied. Metropolitan Water District of Southern California is providing program funding through June. For more information and/or an application, contact Anaheim's resource efficiency advisor, Cathy Templeton, at (714) 765-4272.

Water Conservation Information Committee Meeting

About 70 participants attended a recent two-day Water Conservation Information Committee meeting at Cal Poly, Pomona. Participants included State, federal, and local agencies, water districts, landscape industry and irrigation professionals, and educators. First-day highlights included presentations by Cal Poly faculty members, a tour of the Center for Regenerative Studies, and a demonstration of the Wick Irrigation System. The second day of the meeting focused on estimating landscape demand, using new software and hardware to better manage landscape water use, and improving the effectiveness of public agencies. The meeting was cosponsored by DWR and the U.S Bureau of Reclamation and supported by the National Irrigation Association of Fairfax, Virginia. For more information, contact Ed Craddock at (916) 327-1655; e-mail craddock@water.ca.gov.

Workshops on Urban Water Conservation Best Management Practices

The Department of Water Resources recently hosted workshops in Sacramento and Glendale for the Kern County Water Agency and Bear Valley Community Services District to brief the agencies on the draft of the Certification of the Urban Best Management Practices. In the draft, the California Urban Water Agencies and the Environmental Water Caucus proposed that the California Urban Water Conservation Council be the lead agency for certifying water agency implementation of the Urban Best Management Practices in accordance with the standards in Exhibit 1 of the Urban Memorandum of Understanding. In addition, they recommended that agencies with more than 15,000 service connections be more frequently subjected to certification audits. The draft also encourages cooperation of wholesale and member retail agencies in BMP implementation. The recommendation is made that financial and disciplinary penalties be levied for inadequate BMP implementation and reporting. Comments from the workshops will be used to provide input to the final document to be submitted to CALFED. For more information, contact Mary Lou Cotton, Kern County Water Agency, at (805) 634-1405.

Economic Impacts Positive for IID/San Diego Water Transfer

According to a newly released study, the proposed water conservation and transfer program with San Diego will boost the local economy and stimulate jobs in the Imperial Valley. The study considered the proposed water conserva-

briefs

tion and transfer agreement between the Imperial Irrigation District and the San Diego County Water Authority. The Dornbush & Co, Inc. Consulting Firm evaluated three scenarios using different combinations of on-farm and system water conservation measures to represent a range of program impacts to Imperial Valley. The study found that the program will ultimately stimulate the entire Imperial County economy, preserve jobs in the farm sector, and add jobs in other sectors. For more information, contact Patricia A. Brock, Imperial Irrigation District, at (760) 339-9417.

IID Awarded 1998 Showcase Award for Excellence

Imperial Irrigation District won the 1998 International Award of Excellence for Innovation Technology of its System Automation Program. This award is part of the Consulting Engineers Association showcase awards of Alberta, Canada, and is judged by outside engineers from various universities. IID's system automation program provides improved water management using modern control technology. In addition, the program includes a new water control center, remote flow monitoring sites, and automation for other water conservation programs. This System Automation Program has proved successful with IID's water conservation program and affords IID the technology of additional water conservation for reallocation to San Diego in the proposed IID/San Diego Water Transfer Agreement. For more information, contact Patricia A. Brock, Imperial Irrigation District, at (760) 339-9417.

JMLord, Inc. Introduces Weather Stations and Imagery Services

To assist agricultural managers in improving their production, agricultural scientists at JMLord, Inc. are introducing two new services: AgriCast Weather Stations and AgriCast Imagery. The weather stations can be configured with any other analog or digital instruments, such as soil moisture sensors, water flow, pressure, leaf wetness, and many others. And the AgriCast Imagery will give the farmer the opportunity to view his fields through satellite photography on a regular basis and manage crop production. JMLord President, Joe Lord, said that the imagery services will give the farmer a dated record of his total production area and an opportunity to act quickly and investigate and rectify many crop, soil, or water problems. For more information, contact JMLord, Inc., at (209) 268-9755; e-mail jmlord@jmlordinc.com; or Internet site: **http//:www.jmlordinc.com**.

Correction

Model Landscape Ordinance On the Web

In the January 1998 issue of *Water Conservation News*, we published the wrong address for the Model Landscape Ordinance. Here is the correct address:

http://wwwdpla.water.ca.gov/cgi-bin/urban/conservation/landscape/ordinance/

We apologize for any inconvenience this may have caused.

The Irrigation Training and Research Cen

July 20–31, 1998

1998 Designer/Manager School of Irrigation

Cal Poly State University, San Luis Obispo

Sponsored by the U.S. Bureau of Reclamation, Mid-Pacific Region

July 20, 1998
Basic Soil, Plant & Water Relationships

Suggested Prerequisites: None
Cost: $165
—Covers 1A Level II material basic soil, plant, and water relationships; texture and structure; water-holding capacity, retention; intake rates; evaporation; transpiration; soils classification; and measurement of soil moisture and tension.

July 21, 1998
Basic Pipeline Hydraulics

Suggested Prerequisites: None
Cost: $135
—Covers pipe materials and sizes; mainline computations, tapered pipe, and branches; energy equation, friction, and elevation changes; and minor losses.

July 22, 1998
Basic Pumps

Suggested Prerequisites: None
Cost: $165
—Covers pump curves; pumps in series and parallel; system curves; TDH computations for vertical and booster pumps; efficiency, WHP, BHP, and input HP; and pump selection from catalogs.

July 23, 1998
Chemigation

Suggested Prerequisites: None
Cost: $135 PCA Credit: Pending
—Covers fertilizers; techniques for various irrigation methods; leaching loss reduction; and injection equipment and safety. *(Features new ITRC book.)*

July 23-24, 1998
Advanced Pumps (expanded)

Suggested Prerequisites: Basic Pipeline Hydraulics, Basic Pumps
Cost: $275
—Covers NPSH; submersible pumps; well screens and well development; variable speeds (electric and engine); shaft losses and sizing; and maintenance and trouble-shooting.

July 24, 1998
Row Crop Drip Irrigation

Suggested Prerequisites: Basic Pipeline Hydraulics
Cost: $135
—Covers design layouts, flushing, fittings; how design relates to management; and hose installation and retrieval.

July 27-29, 1998
Drip/Microirrigation

Suggested Prerequisite: Basic Soil, Plant & Water Relationships, Basic Pipeline Hydraulics, Basic Pumps
Cost: $400
—Covers filtration; step-by-step design procedure of hardware selection and hydraulics; emitter and micro system designs; buried drip for trees and vines; and plugging prevention. *(New ITRC book and software.)*

July 30-31, 1998
Irrigation Scheduling, Salinity, & Drainage

Suggested Prerequisite: Basic Soil, Plant, & Water Relationships
Cost: $265
—Covers Eto and crop coefficients; practical irrigation scheduling; efficiency and uniformity influence on scheduling; drainage concepts and layouts; salinity; and leaching requirements and reclamation.

July 27-28, 1998
Landscape Irrigation Auditor

Suggested Prerequisite: None
Cost: $235 PCA Credit: pending
—Covers irrigation evaluation and irrigation scheduling; and sprinklers, drip, micro, and bubbler.

nter Announces 1998 Schedule of Classes

July 29, 1998
Water Budgeting for Landscape
Suggested Prerequisite: None
Cost: $95
—Covers designing or managing a site to water budget and conforming to AB 325 (Model Landscape Ordinance). *(Includes ITRC's latest software.)*

July 30, 1998
Landscape Sprinkler Design
Suggest Prerequisite: Basic Soil, Plant, & Water Relationships, Basic Pipeline Hydraulics
Cost: $165
—Covers application rate; valves, piping, and pipeline sizing; and sprinkler selections and designing blocks.

July 31, 1998
Microirrigation for Landscape
Suggested Prerequisite: None
Cost: $165
—Covers hydraulics of hoses, emitters, and sprayers; equipment selection and maintenance of the system; and matching equipment to plant materials and other stations.

June 10–December 11, 1998

1998 Landscape Water Management Program
Various Locations

Sponsored by DWR's WCO, Santa Clara Valley Water District, City of Santa Clara, South Bay Water Recycling Program, City of San Jose, Fullerton College, and Cuyamaca College

June 10-11, 1998 (San Diego)
June 15-16, 1998 (Fullerton)
July 8-9, 1998 (Santa Clara)
July 27-28, 1998 (San Luis Obispo)
December 9-10, 1998 (San Luis Obispo)

Landscape Water Auditing
Cost: $235 ($210 for those who have previously attended)
—This two-day training session prepares landscape professionals to perform site inspections, evaluate irrigation systems, and develop efficient irrigation schedules for drip, bubbler, microspray, and sprinkler systems. The majority of the course is spent in the field performing "landscape irrigation audits" and at the computer generating irrigation schedules with the software. Benefits from audits include water and cost savings, as well as improved landscape health and appearance. This training session is a prerequisite to taking the Landscape Irrigation Auditor Certification Exam offered by the Irrigation Association.

June 12, 1998 (San Diego)
June 17, 1998 (Fullerton)
July 10, 1998 (San Jose)
July 29, 1998 (San Luis Obispo)
December 11, 1998 (San Luis Obispo)
Landscape Water Budgeting
Cost: $95
—This one-day session presents water budgeting software for use by planners, designers, and landscape managers. The software helps the user define hydrozones, evaluate "what-if" situations for planting areas to comply with the water budget, forecast annual water use, and evaluate annual water cost. Preliminary irrigation schedules can also be generated. *The Water Budgeting Handbook* is based on the State's Model Landscape Ordinance (AB 325), and the software can be tailored to handle alternative water budget and allocation methods.

Information

For more information on any of these classes, contact the Irrigation Training and Research Center at:

Cal Poly State University
San Luis Obispo
Telephone: (805) 756-2434.

WATER CONSERVATION–RELATED EVENTS

May 6-8, 1998
Association of California Water Agencies Spring Conference
Monterey Conference Center
Monterey, California
For further information, call ACWA at (916) 441-4545.
—This three-day ACWA event includes an array of speakers and programs addressing the theme "California Water at the Crossroads." Topics will cover a wide range of issues critical to the water community, including key legislation and policy developments at the federal and State levels.

May 12-14, 1998
"Planning for the Next Drought" Mitigation Workshop
Ft. Mitchell, Kentucky
For further information, call (402) 472-6707.
—Cosponsored by the U.S. Bureau of Reclamation and the National Governors' Association, these three-day drought mitigation workshops will focus on early warning systems, vulnerability assessment, drought mitigation, and planning and preparedness. Objectives of the workshops are to help people understand drought and the need for drought planning; teach natural resource managers, water utility managers, emergency managers, planners, and others how to develop drought contingency plans; and help different levels and agencies of government coordinate drought-related programs.

May14-16, 1998
"Russian River Watershed Symposium—A Living System in Transition"
Luther Burbank Center
Santa Rosa, California
Hosts: Russian River Symposium Steering Committee and Sonoma County Water Agency
For further information, call Shannon Wesley at (707) 521-2104.
—Topics will include watershed management; agriculture; the timber and gravel industries; flooding; endangered species; wildlife preservation; and water quality, reuse, and supply/demand.

June 3-6, 1998
14th Technical Conference on Irrigation, Drainage, and Flood Control
Phoenix, Arizona
For further information, call Larry D. Stephens at (303) 628-5430.
—The theme of this U.S. Committee on Irrigation and Drainage event is "Contemporary Challenges for Irrigation and Drainage." Topics of the five technical sessions will be "Drainage Discharge Limitations," "Improving Irrigation Management Practices Under Conditions of Water Scarcity," "Innovative Approaches to Modernization of Irrigation and Drainage Systems," "Sustainable Use of Marginal Quality Water for Irrigation," and "Social, Environmental, and

Economic Issues and Policies Affecting Irrigated Agriculture."

June 10-12, 1998
"Understanding the Bay-Delta" Tour
Water Education Foundation
For further information, call (916) 444-6274.
—Travel through the Sacramento-San Joaquin Delta and San Francisco Bay area, Delta waterway, and wildlife refuges. Highlights of the tour include the Harvey O. Banks Pumping Plant, the Bay-Delta model in Sausalito, a ferry ride across San Francisco Bay, a houseboat cruise, and dinner at the beautiful Alta Mira Hotel in Sausalito.

August 3-7, 1998
1998 International Conference on Water Resources Engineering
The Peabody Hotel
Memphis, Tennessee
For further information, call (800) 548-2743.
—This five-day conference will include a Groundwater Management Symposium, Hydrology and Hydraulics of Wetlands Mini-Symposium, and Bank Stabilization Mini-Symposium. The conference is cosponsored by Water Resources Engineering Division, American Society of Civil Engineers,West Tennessee Branch, Tennessee Section, American Society of Civil Engineers; and Ground Water Institute, University of Memphis.

September 23-25, 1998
Eastern Sierra Watershed Tour
Water Education Foundation
For further information, call (916) 444-6274.
—Explore some of the watersheds that supply water to California and Nevada. Tour the Truckee-Tahoe Basin (past the Walker River, to the Mono Lake Basin, through the Owens Valley, and into Southern California) to see the significance of managing water resources through a watershed. Discussion will also examine the agricultural, domestic, recreational, and environmental uses of the water supply and reasons for using an integrated watershed management approach.

October 7-9, 1998
Northern California Water Facilities & Fisheries Tour
Water Education Foundation
For further information, call (916) 444-6274.
—The tour focuses on the Sacramento River and includes visits to Oroville Dam (the beginning of the State Water Project), and Shasta Dam (keystone of the federal Central Valley Project). Other highlights are tours of the Feather River Fish Hatchery, Gray Lodge Wildlife Refuge, Spring Creek Debris Dam, an outdoor salmon barbecue, and a houseboat cruise on Shasta Reservoir.

October 28-31, 1998
Conference on Shared Rivers: "River Basin Management to Meet Competing Needs"
Park City, Utah
For further information, call (303) 628-5431.
—Sponsored by the United States Committee on Irrigation and Drainage, this four-day conference will feature in-depth examinations of four major western U.S. river basins: the Colorado, the Columbia/Snake, the Platte/Missouri, and the Rio Grande. A fifth session will provide a broader view of other river basins in the U.S. and internationally. Each of the discussions will begin with an expert speaker who will examine the river basin's administrative, political, social, or technical management issues. The presentations will be selected from abstracts received in reponse to a call for papers (see item below).

October 28-31, 1998
Call for papers for the Conference on Shared Rivers: "River Basin Management to Meet Competing Needs"
Park City, Utah
For further information, call (303) 628-5431.
—Professionals involved in water resources and environmental management are invited to submit abstracts of proposed papers addressing conference topics and issues. Call the number above for more information on abstract content and format. Abstracts are due to the USCID by **May 31, 1998.**

Summary of Major California Water Legislation

AB 609 (Margett) Recycled Water

Would allow agreements between groundwater replenishment agencies and recycled water wholesalers for the use of recycled water for groundwater replenishment; includes a formal mediation process.

AB 2027 (Machado) Water Transfers

Would declare legislative intent that water transfers not result in excess profits, as determined by the Director of DWR, after specific considerations.

AB 2628 (Pringle) California Water Plan

Would make clarifying changes to current law specifying that the California Water Plan is the State's policy for managing water resources.

AB 2666 (Perata) Bay-Delta Water Recycling Fund

Would revise the Water Recycling Act of 1991 by authorizing several State agencies to award grants and enter into contracts to conduct, or assist in the financing of water recycling studies, investigations, and research and development. The bill also appropriates $5 million to a new Bay-Delta Water Recycling Fund for research on water recycling.

SB 1011 (Costa) Water Transfers

Would specify that the term "water conservation," for the purpose of transfer, applies to temporary land fallowing, as opposed to permanaent land fallowing or land retirement.

SB 1833 (Kelley) Water Policy

Declares it State policy to support and encourage the efficient use of California's entitlement to Colorado River water to facilitate transfers, such as the proposed Imperial Irrigation District/San Diego County Water Authority transfer, to help meet increasing urban demand for water and to reduce impacts on the San Francisco Bay-Delta estuary.

SB 1854 (Costa) DWR Loans and Grants

Would authorize loans from various bond funds administered by DWR for water conservation, groundwater recharge, and new water supply projects, and would authorize grants for safe drinking water projects.

Study Identifies Most Promising ULFT Retrofits

According to a recent study, retail/wholesale establishments, food stores, and restaurants are the most promising commercial, industrial, and institutional sites to retrofit with ultra-low flush toilets. In a recent study, the California Urban Water Conservation Council estimates that retrofitting such sites could save up to 57 gallons of water per day for each ULFT.

Water savings were estimated by comparing pre- and post-retrofit use patterns at 1,370 sites served by ten California agencies that participated in ULFT programs between 1992 and 1996. A phone survey of 452 of the sites helped to validate retrofit information, identify potential non-ULFT water-related changes over time, and provide customer satisfaction information.

Market Segment	Average Savings (gpd)
Wholesale	57
Food Store	48
Restaurant	47
Retail	37
Automotive	37
Multiple Use	29
Religious	28
Manufacturing	23
Health Care	21
Office	20
Hotel/Motel	16
Miscellaneous	17

Hotels and motels had the lowest estimated savings at 16 gpd. The study was unable to determine ULFT water savings for the school and membership (health clubs, etc.) segments, largely due to lack of sites and the recording of indoor water and irrigation water on a single meter. The study recommends a more focused analysis with larger, more representative samples.

The study also sought to develop a practical method to estimate the number of toilets by market segment within a given agency's service area. This information could help water planners establish long-term targets for ULFT replacements. When combined with per ULFT water savings estimates, it may be used to set targets for an agency's ULFT water savings.

The method described in the study is based upon identifying a link between number of toilets at a site and another parameter such as number of employees, students, hotel rooms, etc.

The Council's mission is to oversee implementation of urban water conservation best management practices (BMP) and to improve the state of the art in water conservation practice and analysis.

For more information on this report, contact Charlie Pike, DWR, Division of Planning and Local Assistance, 1020 Ninth Street, 3rd Floor, Sacramento, California 95814; telephone (916) 327-1649; or e-mail cpike@water.ca.gov.

AWWA Revises Water Conservation Policy

The American Water Works Association's Board of Directors has approved the following revised policy statement on water conservation—the first since 1993.

"AWWA strongly encourages water utilities to adopt policies and procedures that result in the efficient use of water, in their operations and by the public, through a balanced approach combining demand management and phased source development. To this end, AWWA supports the following water conservation principles and practices:

1. *efficient use of sources of supply;*
2. *appropriate facility rehabilitation or replacement;*
3. *leak detection and repair;*
4. *accurate monitoring of consumption and billing, based on metered usage;*
5. *full-cost pricing;*
6. *establishment of water-use efficiency standards for new plumbing fixtures and appliances and encouragement of conversion of high-water-use plumbing fixtures to more efficient designs;*
7. *encouragement of the use of efficient irrigation systems and landscape materials;*
8. *development and use of educational materials on water conservation;*
9. *public information programs promoting efficient practices and water conservation by all customers;*
10. *integrated resource planning;*
11. *water reuse for appropriate uses; and*
12. *continued research on efficient water use practices."*

49 Ways to Save Water

The American Water and Energy Savers, Inc. recently published a comprehensive fact sheet describing simple ways one can save water both indoors and outdoors. These 49 water-saving techniques can be accessed through the Internet at:
http://www.american.water.com/49ways.htm

New Publications

Drainage Management in the San Joaquin Valley—A Status Report

This 65-page status report describes the steps being taken to resolve drainage problem issues in the San Joaquin Valley. The report will be distributed to the San Joaquin Valley Drainage Implementation Program Management Group, growers, landowners, and to others interested in salt, trace elements, and drainage issues in the San Joaquin Valley.

CIMIS—Fifteen Years of Growth and a Promising Future

This publication describes the history and development of the California Irrigation Management Information System from its inception in 1982 to its current status as one of the premier systems providing climatological data to public and private agencies.

To obtain copies of either of the above publications, contact Bulletins and Reports, Department of Water Resources, 1416 Ninth Street, Room 338, Sacramento, California 95814; telephone (916) 653-1097.

The Layperson's Guide to Water Conservation

This recently updated publication provides the reader with a critical examination of current urban and agricultural conservation efforts, as well as new techniques and programs. The Guide focuses on conservation as a critical part of the States's overall strategy for efficiently managing water resources. A section on conservation resources found on the World Wide Web is also included in the Guide.

To obtain a copy of the above publication, contact the Water Education Foundation, 717 K Street, Ste. 517, Sacramento, California 95814; telephone (916) 448-7699.

Inside the Beltway, Going Against the Flow:

"Toilet Rebels" vs. "Toilet Police"

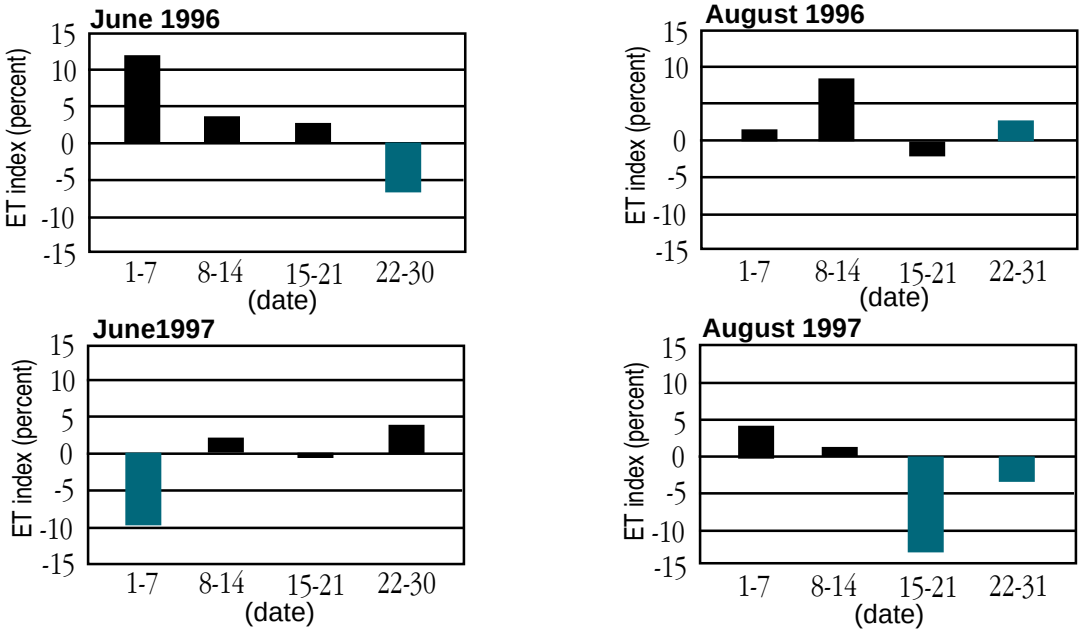
Calling themselves the "toilet rebels," thirty-four members of Congress have cosigned proposed HR 859 to repeal the highly successful water conservation elements of the Federal Energy Policy Act passed in 1992. The "rebels" have labeled water agencies and government regulators as the "toilet police," asserting that toilet regulations have gone too far. Current law requires that every new residential toilet made in this country use 1.6 gallons per flush instead of the old 3.5 gpf standard.

The American Water Works Association, Water Conservation Division, is leading the fight to support the existing law. Understandably, toilet makers would prefer to avoid a maze of state regulations that could require the manufacturing of different toilet sizes. Environmentalists point to huge savings from the new models. For example, New York City has cut water use by 7 percent since it began a toilet retrofit program for reducing the volume of waste discharges to its treatment plants.

Because of the existing law there are now about 25 million 1.6-gallon toilets installed across the country, according to Edward Osann of the American Council for an Energy Efficient Economy. The only federal penalty for violating this law is a $100 charge for each 3.5 gpf toilet manufactured. Osann is also the coauthor of the report *Saving Water, Saving Dollars: Efficient Plumbing Products and the Protection of America's Waters*, published by Potomac Resources Inc. The California Urban Water Conservation Council and the Plumbing Manufacturers Institute were major supporters of the report that chronicles the success of ultra-low-flow fixture programs.

While fascinating in theory, a to-the-death battle between the "toilet rebels" and "toilet police" is unlikely. Representative Knollenberg of Michigan has been pressing for hearings, but the bill will most likely not be brought before the House this year, according to the April 15, 1998 edition of the *San Diego Tribune.*

CIMIS Network News



CIMIS has developed a watering index to assist in adjusting lawn or turf watering. The index, called ET index, is based on long-term-ETo. The ET index was developed for various locations based on long- term ETo data from CIMIS weather stations. The charts above show examples of ET indices for Davis for June and August 1996 and 1997. How does the ET index work? Let us assume that your watering schedule is based on normal weather conditions. For the week of June 1, 1996 through June 7, 1996 the index was about 10%. That means your plant water requirement was 10% higher than normal. You should consider adding 10% to your run time the next week to optimize your irrigation management . On the other hand, for the same period in 1997, the index was negative about -10%. In this case, your plant water requirement was 10% less than normal. You should consider subtracting 10% from your run-time the next week. Differences of less than 5% should not require a percentage change.

Address Correction Requested

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